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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,212	06/26/2003	R. Enrique Viturro	D/A3248	5705
25453	7590	08/17/2004	EXAMINER	
PATENT DOCUMENTATION CENTER			BRASE, SANDRA L	
XEROX CORPORATION				
100 CLINTON AVE., SOUTH, XEROX SQUARE, 20TH FLOOR			ART UNIT	PAPER NUMBER
ROCHESTER, NY 14644			2852	

DATE MAILED: 08/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/607,212	VITURRO ET AL. <i>pw</i>	
	<b>Examiner</b> Sandra L. Brase	<b>Art Unit</b> 2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-8 and 11-19 is/are rejected.
- 7) Claim(s) 9,10,20 and 21 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 26 June 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____ .  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/26/03</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____ .                                  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The first document listed on the 1449 has not been considered since applicant has not provided the U.S. Patent Application Serial Number.

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 12. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 16, 86, 88, 90, 94, 150 and 620. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR

1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

3. The disclosure is objected to because of the following informalities.

On line 5 of page 1, the U.S. Patent Application Serial No. needs to be provided.

On line 18 of page 2, “1” should be changed to “2”.

On lines 5, 8 and 23 of page 9, “2” should be changed to “1”.

Appropriate correction is required.

### *Claim Objections*

4. Claims 1-12 and 16 are objected to because of the following informalities.

On line 23 of claim 1, “base” should be changed to “based”.

On line 2 of claim 5, and on line 2 of claim 16, “nm” should be inserted after “800”.

On line 3 of claim 11, “”Add Toner”” should be changed to “add toner”.

5. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-5 and 13-16 are rejected under 35 U.S.C. 102(b) as being by anticipated Yoo et al. (US 6,289,184).

8. Yoo et al. (...184) disclose an electrophotographic color printing machine for producing color images, comprising: means for recording an image on an imaging member (col. 1, lines 22-44); a first developer unit (figure 1) for developing the image, the first developer unit including a sump for storing a quantity of developer material comprised of toner of a first color and carrier material, a member for transporting developer material from the sump, the sump including a viewing window, in communication with developer material, in the sump, an optical sensor, device for measuring reflected light off the viewing window and developer material, and means for generating a signal indicative of the toner concentration in the sump, the optical sensor including a light source and a light detector, the light source emitting light at a first predetermined wavelength based upon the toner of the first color (col. 5, lines 61 – col. 6, line 55); and a second developer unit (figure 1) for developing the image, the second developer unit including a sump for storing a quantity of developer material comprised of toner of a second color and carrier material, a member for transporting developer material from the sump, the sump including a viewing window, in communication with developer material, in the sump, an

optical sensor, device for measuring reflected light off the viewing window and developer material, and means for generating a signal indicative of the toner concentration in the sump, the optical sensor including a light source and a light detector, the light source emitting light at a second predetermined wavelength based upon the toner of the second color (col. 5, line 61 – col. 6, line 55). The first color and second color is selected from cyan, magenta and yellow. When the color is cyan, the predefined wavelength is 550-780 nm (col. 6, lines 45-55). When the color is yellow, the predetermined wavelength is 370-500 nm (col. 6, lines 45-55). When the color is magenta, the predetermined wavelength is (col. 6, lines 45-55). A method for determining toner concentration of a sample comprised of toner and developer, comprising: exposing the sample to light; the exposing includes emitting light at a predefined wavelength based upon the color of the toner (col. 6, lines 39-44); detecting the light reflected off the sample with an optical sensor (col. 5, line 63 – col. 6, line 3); and determining the toner concentration of the sample based upon the light reflected off the sample (col. 6, lines 24-28).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 6 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoo et al. (US 6,289,184) in view of Fujita et al. (US 4,273,843).

12. Yoo et al. (...184) disclose the features mentioned previously, but do not disclose the wavelength the optical sensor used when the color is black. Fujita et al. (...843) disclose an optical detecting member and method that emits a light of a wavelength in the range of approximately 600 – 1000 nm for a black color developer (col. 5, lines 21-32; and figure 5). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the claimed wavelength when the color is black, as disclosed by Fujita et al. (...843), since such a wavelength value for a light emitted in an optical sensor device for black developer is well known in the art.

13. Claims 7, 8, 12, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoo et al. (US 6,289,184) in view of Fujii (US 5,229,821).

14. Yoo et al. (...184) disclose the features mentioned previously, and disclose a toner concentration controller including means for correlating measurements from the optical sensor to a toner concentration measurement (col. 6, lines 24- 28). However, Yoo et al. (...184) do not disclose optical sensor including an LED and a Si photodiode, and the window is a glass window. Fujii (...821) discloses an optical developer sensor including a light source that

comprises an LED and a light detector comprising a Si diode (col. 8, lines 3-19). The detection window is glass (col. 8, lines 13-14). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the optical sensor include an LED and a Si photodiode and the window is glass, as disclosed by Fujii (...821), since such components are well known in an optical sensor that is senses developer in a developing device.

15. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoo et al. (US 6,289,184) in view of Fujii (US 5,229,821) as applied to claim 8 above, and further in view of Reid et al. (US 4,141,645).

16. Yoo et al. (...184) in view of Fujii (...821) disclose the features mentioned previously, but do not disclose generating the claimed add toner signal. Reid et al. (...645) disclose an image forming apparatus including a toner concentration controller that is adapted to receive a signal from a sensor and generates an add toner signal to replenish toner in a sump to maintain a predefined toner concentration (abstract; and col. 6, line 14 – col. 7, line 13). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the toner concentration controller generate an add toner signal, as disclosed by Reid et al. (...645), since as to replenish toner when a concentration has dropped below an acceptable level for image formation.

***Allowable Subject Matter***

17. Claims 9, 10, 20 and 21 are allowed.

***Prior Art***

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rarey (US 3,610,205), Nishikawa (US 4,550,998), Stelter (US 4,980,727), Tada et al. (US 4,985,823) and Katahira (US 6,381,421) disclose a toner sensor.

***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sandra L. Brase whose telephone number is 571-272-2131. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur T. Grimley, can be reached on 571-272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sandra L. Brase  
Primary Examiner  
Art Unit 2852

August 16, 2004